

Countercyclical Currency Risk Premia

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Supplementary Online Appendix

A Solution for Equity Returns

To find the price-dividend ratio of the dividend claim, we can use the standard log-linear approximation for the log gross return on the claim,

$$r_{t+1}^{ei} \approx k_0 + k_1 x_{t+1}^i - x_t + \Delta d_{t+1}^i,$$

where $x_{t+1}^i = \log \frac{P_{t+1}^i}{D_{t+1}^i}$ and the coefficients for the expansion around its mean \bar{x} are $k_0 = \log(1 + \exp(\bar{x})) - \frac{\bar{x} \exp(\bar{x})}{1 + \exp(\bar{x})}$ and $k_1 = \frac{\exp(\bar{x})}{1 + \exp(\bar{x})}$. We conjecture that the log price-dividend ratio is affine in the state variables,

$$x_t^i = A_e^i + B_e^i z_t^i + C_e^i z_t^w.$$

Then the Euler equation

$$E_t \exp(m_{t+1} + r_{t+1}^e) = 1$$

implies

$$0 = -\alpha - \left[\chi - \frac{1}{2}(\gamma + \kappa) \right] z_t^i - \left[\tau - \frac{1}{2}\delta^i \right] z_t^w + \psi_0 \quad (38)$$

$$+ \left[\frac{1}{2}\sigma_D^2 + \frac{1}{2}\sigma_D^{g2} - \sigma_D \sqrt{\gamma} - \sigma_D^g \sqrt{\kappa} \right] z_t^i + \psi_w z_t^w - A_e^i - B_e^i z_t^i - C_e^i z_t^w \quad (39)$$

$$+ k_0 + k_1 [A_e^i + B_e^i (\phi^i z_t^i + (1 - \phi^i)\theta^i) + C_e^i ((1 - \phi^w)\theta^w + \phi^w z_t^w)] \quad (40)$$

$$+ \left(\frac{1}{2} (k_1 B_e^i \sigma)^2 + k_1 B_e^i \sigma \sqrt{\gamma} \right) z_t^i + \left(\frac{1}{2} (k_1 C_e^i \sigma^w)^2 + k_1 C_e^i \sigma^w \sqrt{\delta^i} \right) z_t^w. \quad (41)$$

Consequently, the coefficients can be found by solving the following equations:

$$0 = - \left[\chi - \frac{1}{2}(\gamma + \kappa) \right] + \frac{1}{2}\sigma_D^2 + \frac{1}{2}\sigma_D^{g2} \quad (42)$$

$$+ \sigma_D \sqrt{\gamma} + \sigma_D^g \sqrt{\kappa} + B_e^i [k_1 (\phi^i + \sigma \sqrt{\gamma}) - 1] + \frac{1}{2} (k_1 B_e^i \sigma)^2, \quad (43)$$

$$0 = -\tau + \frac{1}{2}\delta^i + \psi_w + C_e^i [k_1 (\phi^w + \sigma^w \sqrt{\delta^i}) - 1] + \frac{1}{2} (k_1 C_e^i \sigma^w)^2,$$

and

$$A_e^i = \frac{\alpha - \psi_0 - k_0 + k_1 B_e^i \theta^i (\phi^i - 1) + k_1 C_e^i \theta^w (\phi^w - 1)}{k_1 - 1}.$$

There are two solutions each for B and C :

$$B_e^i = \frac{k_1\phi + k_1\sigma\sqrt{\gamma} - 1 \pm \sqrt{2(k_1\sigma)^2\left(\chi - \frac{1}{2}(\gamma + \kappa) - \frac{1}{2}\sigma_D^2 - \frac{1}{2}\sigma_D^{g2} + \sigma_D\sqrt{\gamma} + \sigma_D^g\sqrt{\kappa}\right)}}{k_1^2\sigma^2} \quad (44)$$

$$C_e^i = \frac{k_1\left(\phi^w + \sigma^w\sqrt{\delta^i}\right) - 1 \pm \sqrt{\left(k_1\left(\phi^w + \sigma^w\sqrt{\delta^i}\right) - 1\right)^2 + 2(k_1\sigma^w)^2\left(\tau - \frac{1}{2}\delta^i - \psi_w\right)}}{k_1^2\sigma_w^2}. \quad (45)$$

We look for the solutions consistent with the assumption that $E(x) = \bar{x}$ (since k_0 and k_1 are functions of \bar{x}). Only the negative roots satisfy this restriction.

B Additional Results

This separate appendix reports the following results:

- Table XII: Summary Statistics — Average Forward Discounts and Average Excess Returns
- Table XIII: Forecasting Returns and Exchange Rates with the U.S.-specific Component of the Average Forward Discount of Developed Countries;
- Table XIV: Forecasting Returns and Exchange Rates with Real-Time Industrial Production Index and the Average Forward Discount;
- Table XV: Forecasting Returns and Exchange Rates with Industrial Production Residual and the Average Forward Discount;
- Table XVI: Forecasting Excess Returns with Average Forward Discounts - Foreign Investors;

[Table 12 about here.]

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[Table 14 about here.]

[Table 15 about here.]

[Table 16 about here.]

Table XII: Summary Statistics – Average Forward Discounts and Average Excess Returns

<i>Horizon</i>	1	2	3	6	12
Panel A: Developed Countries					
	Average Forward Discount, $\bar{f}_{t \rightarrow t+1} - \bar{s}_t$				
<i>Mean</i>	0.91	0.90	0.87	0.78	0.60
<i>Std.</i>	2.11	2.02	1.97	1.88	1.75
<i>Auto</i>	0.89	0.96	0.97	0.98	0.98
	Average Spot Change, $-\overline{\Delta s}_{t \rightarrow t+1}$				
<i>Mean</i>	1.33	1.32	1.45	1.56	1.80
<i>Std.</i>	8.65	9.06	9.30	9.92	9.87
	Average Excess Returns, $\overline{r\bar{x}}_{t+1}$				
<i>Mean</i>	2.25	2.23	2.33	2.35	2.43
<i>Std.</i>	8.73	9.20	9.50	10.27	10.37
Panel B: Emerging Countries					
	Average Forward Discount, $\bar{f}_{t \rightarrow t+1} - \bar{s}_t$				
<i>Mean</i>	3.10	3.04	2.99	2.83	2.57
<i>Std.</i>	3.32	3.09	2.98	2.76	2.50
<i>Auto</i>	0.84	0.91	0.93	0.95	0.96
	Average Spot Change, $-\overline{\Delta s}_{t \rightarrow t+1}$				
<i>Mean</i>	-3.55	-3.49	-3.36	-3.30	-3.14
<i>Std.</i>	8.30	8.76	9.19	10.42	11.26
	Average Excess Returns, $\overline{r\bar{x}}_{t+1}$				
<i>Mean</i>	-0.33	-0.49	-0.46	-0.72	-0.62
<i>Std.</i>	8.44	8.66	9.05	10.28	11.17
Panel C: All Countries					
	Average Forward Discount, $\bar{f}_{t \rightarrow t+1} - \bar{s}_t$				
<i>Mean</i>	1.82	1.79	1.76	1.66	1.44
<i>Std.</i>	1.74	1.65	1.62	1.61	1.57
<i>Auto</i>	0.84	0.93	0.95	0.96	0.97
	Average Spot Change, $-\overline{\Delta s}_{t \rightarrow t+1}$				
<i>Mean</i>	0.08	0.09	0.22	0.29	0.55
<i>Std.</i>	7.65	8.09	8.36	9.01	9.03
	Average Excess Returns, $\overline{r\bar{x}}_{t+1}$				
<i>Mean</i>	1.97	1.91	1.99	1.95	2.09
<i>Std.</i>	7.79	8.23	8.55	9.33	9.55

Notes: This table reports the summary statistics of the currency baskets for developed countries, emerging markets, and all countries in our sample. We consider different horizons: 1, 2, 3, 6, and 12 months. For each basket $j \in \{Developed, Emerging, All\}$ and each horizon, the table presents the annualized means, standard deviations and autocorrelations of average forward discounts $\bar{f}_{t \rightarrow t+1}^j - \bar{s}_t^j$, average spot rate changes $-\overline{\Delta s}_{t \rightarrow t+1}^j$, and average log excess returns $\overline{r\bar{x}}_{t+1}^j$, in percentage points. The sample period is 11/1983–6/2010.

Table XIII: Forecasting Returns and Exchange Rates with the U.S.-specific Component of the Average Forward Discount of Developed Countries

<i>Horizon</i>	Developed Countries				Emerging Countries				All Countries			
	ψ_f	R^2	ζ_f	R^2	ψ_f	R^2	ζ_f	R^2	ψ_f	R^2	ζ_f	R^2
1	2.24	2.23	1.24	0.70	1.64	1.29	1.60	1.26	1.96	2.14	1.27	0.94
<i>HH</i>	[2.17]		[1.21]		[1.66]		[1.58]		[2.11]		[1.38]	
<i>VAR</i>	[2.43]		[1.41]		[1.99]		[1.88]		[2.38]		[1.63]	
2	2.23	3.66	1.23	1.16	1.61	2.17	1.65	2.23	1.95	3.51	1.29	1.58
<i>HH</i>	[2.07]		[1.15]		[1.61]		[1.56]		[2.01]		[1.34]	
<i>VAR</i>	[2.11]		[1.30]		[1.58]		[1.67]		[2.15]		[1.41]	
3	2.16	4.63	1.16	1.40	1.51	2.48	1.55	2.55	1.86	4.25	1.21	1.87
<i>HH</i>	[1.98]		[1.08]		[1.41]		[1.38]		[1.88]		[1.23]	
<i>VAR</i>	[1.97]		[1.14]		[1.44]		[1.45]		[2.01]		[1.36]	
6	2.20	7.60	1.20	2.43	1.51	3.57	1.60	3.89	1.89	6.78	1.25	3.16
<i>HH</i>	[2.05]		[1.13]		[1.32]		[1.31]		[1.90]		[1.27]	
<i>VAR</i>	[2.18]		[1.27]		[1.47]		[1.64]		[2.16]		[1.41]	
12	1.95	9.96	0.95	2.63	1.80	7.32	1.89	7.93	1.66	8.53	1.03	3.64
<i>HH</i>	[1.88]		[0.93]		[1.46]		[1.42]		[1.71]		[1.07]	
<i>VAR</i>	[1.95]		[1.03]		[2.26]		[2.42]		[1.82]		[1.26]	

Notes: This table reports results of forecasting regressions for average excess returns and average exchange rate changes for baskets of currencies at horizons of one, two, three, six and twelve months. For each basket we report the R^2 , and the slope coefficient in the time-series regression of the log currency excess return of a given basket on the U.S.-specific component of average log forward discount for developed countries (ψ_f), and similarly the slope coefficient ζ_f and the R^2 for the regressions of average exchange rate changes. The U.S. specific component is estimated as the residual from the regression

$$(\bar{f}_{t \rightarrow t+k} - \bar{s}_t) = \alpha + \beta \overline{\Delta \log IP}_t + AFD_{res,t}, \quad (46)$$

$$\bar{r}x_{t \rightarrow t+k} = \psi_0 + \psi_f AFD_{res,t} + \eta_{t+1}, \quad (47)$$

where $\overline{\Delta \log IP}_t$ denotes the average of the 12-month changes in IP indices across 28 developed countries (excluding the U.S.). The t -statistics for the slope coefficients in brackets are computed using the following methods. *HH* denotes Hansen and Hodrick (1980) standard errors computed with the number of lags equal to the length of overlap plus one lag. The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag. Data are monthly, from Barclays and Reuters (available via Datastream). The returns do not take into account bid-ask spreads. The sample period is 11/1983–6/2010.

Table XIV: Forecasting Excess Returns and Exchange Rates with Real-Time Industrial Production Index and the Average Forward Discount

Horizon	Developed Countries												Emerging Countries												All Countries											
	Excess Returns				Exchange Rates				Excess Returns				Exchange Rates				Excess Returns				Exchange Rates				Excess Returns				Exchange Rates							
	ψ_{IP}	ψ_F	W	R^2	ζ_{IP}	ζ_F	W	R^2	ψ_{IP}	ψ_F	W	R^2	ζ_{IP}	ζ_F	W	R^2	ψ_{IP}	ψ_F	W	R^2	ζ_{IP}	ζ_F	W	R^2	ψ_{IP}	ψ_F	W	R^2	ζ_{IP}	ζ_F	W	R^2				
1	-0.41	1.79	13.49	4.57	-0.41	0.79	8.35	2.73	-0.22	-0.34	1.83	0.78	-0.22	-1.34	4.95	3.01	-0.35	1.55	7.15	3.40	-0.35	0.55	4.68	2.10												
<i>HH</i>	[-2.06]	[1.81]	[0.06]		[-2.06]	[0.80]	[3.63]		[-1.25]	[-0.44]	[69.88]		[-1.25]	[-1.73]	[22.56]		[-2.04]	[1.42]	[1.52]		[-2.04]	[0.51]	[12.38]													
<i>VAR</i>	[-1.92]	[1.88]	[0.00]		[-1.96]	[0.83]	[0.00]		[-1.13]	[-0.66]	[0.20]		[-1.18]	[-2.92]	[0.00]		[-1.93]	[1.51]	[0.00]		[-2.00]	[0.60]	[0.00]													
2	-0.41	1.77	12.17	7.93	-0.41	0.77	8.10	4.88	-0.22	-0.80	1.79	2.68	-0.22	-1.80	3.11	8.00	-0.35	1.56	9.60	5.91	-0.35	0.56	7.04	3.75												
<i>HH</i>	[-2.26]	[1.74]	[0.02]		[-2.26]	[0.76]	[1.60]		[-1.34]	[-0.95]	[58.50]		[-1.34]	[-2.13]	[12.66]		[-2.25]	[1.48]	[0.59]		[-2.25]	[0.53]	[6.56]													
<i>VAR</i>	[-2.04]	[1.60]	[0.00]		[-2.15]	[0.72]	[0.00]		[-1.16]	[-1.44]	[0.00]		[-1.16]	[-3.00]	[0.00]		[-1.97]	[1.41]	[0.00]		[-2.06]	[0.51]	[0.20]													
3	-0.40	1.72	11.14	10.36	-0.40	0.72	7.44	6.40	-0.24	-0.71	1.84	3.40	-0.24	-1.71	3.14	9.75	-0.34	1.52	9.27	7.74	-0.34	0.52	6.75	4.95												
<i>HH</i>	[-2.23]	[1.73]	[0.07]		[-2.23]	[0.73]	[3.04]		[-1.41]	[-0.84]	[58.01]		[-1.41]	[-2.03]	[15.47]		[-2.24]	[1.52]	[1.17]		[-2.24]	[0.52]	[9.26]													
<i>VAR</i>	[-2.03]	[1.64]	[0.00]		[-1.96]	[0.71]	[0.10]		[-1.29]	[-1.25]	[0.00]		[-1.23]	[-2.84]	[0.00]		[-1.97]	[1.24]	[0.00]		[-1.98]	[0.40]	[0.10]													
6	-0.32	1.82	8.56	14.47	-0.32	0.82	5.16	8.38	-0.26	-0.47	1.65	4.46	-0.26	-1.47	3.15	11.39	-0.28	1.80	7.50	12.04	-0.28	0.80	4.71	7.11												
<i>HH</i>	[-1.84]	[1.97]	[0.29]		[-1.84]	[0.89]	[10.44]		[-1.54]	[-0.58]	[54.78]		[-1.54]	[-1.82]	[21.54]		[-1.94]	[2.16]	[1.03]		[-1.94]	[0.96]	[16.59]													
<i>VAR</i>	[-1.69]	[1.70]	[0.00]		[-1.77]	[0.78]	[0.00]		[-1.54]	[-0.86]	[0.20]		[-1.47]	[-2.22]	[0.00]		[-1.73]	[1.64]	[0.00]		[-1.79]	[0.74]	[0.00]													
12	-0.27	1.51	6.66	19.04	-0.27	0.51	3.89	10.57	-0.29	-0.29	4.06	7.94	-0.29	-1.29	4.03	15.79	-0.26	1.40	6.95	15.90	-0.26	0.40	4.01	9.38												
<i>HH</i>	[-1.81]	[1.63]	[0.41]		[-1.81]	[0.55]	[13.13]		[-1.91]	[-0.32]	[28.94]		[-1.91]	[-1.42]	[23.25]		[-2.13]	[1.96]	[0.49]		[-2.13]	[0.56]	[12.76]													
<i>VAR</i>	[-1.85]	[1.48]	[0.00]		[-1.79]	[0.65]	[0.00]		[-2.33]	[-0.47]	[0.00]		[-2.41]	[-2.14]	[0.00]		[-2.02]	[1.40]	[0.00]		[-1.89]	[0.40]	[0.00]													

Notes: This table reports results of forecasting regressions for average excess returns and average exchange rate changes for baskets of currencies at horizons of one, two, three, six and twelve months. For each basket we report the R^2 , and the slope coefficients in the time-series regression of the log currency excess return on the 12-month change in the U.S. Industrial Production Index (ψ_{IP}) and on the average log forward discount (ψ_F), and similarly the slope coefficients ζ_{IP} , ζ_F and the R^2 for the regressions of average exchange rate changes. The Industrial Production Index is based on the vintage initial release (i.e., real-time) data, available from the Federal Reserve Board. The t -statistics for the slope coefficients in brackets are computed using the following methods. *HH* denotes Hansen and Hodrick (1980) standard errors computed with the number of lags equal to the length of overlap plus one lag. The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag. We also report the Wald tests (W) of the hypothesis that both slope coefficients are jointly equal to zero; the percentage p -values in brackets are for the χ^2 -distribution under the parametric cases (NW) and for the bootstrap distribution of the F statistic under *VAR*. Data are monthly, from Barclays and Reuters (available via Datastream). The returns do not take into account bid-ask spreads. The sample period is 11/1983–6/2010.

Table XV: Forecasting Returns and Exchange Rates with Industrial Production Residual and the Average Forward Discount

Horizon	Developed Countries										Emerging Countries										All Countries												
	Excess Returns					Exchange Rates					Excess Returns					Exchange Rates					Excess Returns					Exchange Rates							
	ψ_{IP}	ψ_f	W	R^2	ζ_{IP}	ζ_f	W	R^2	ψ_{IP}	ψ_f	W	R^2	ζ_{IP}	ζ_f	W	R^2	ψ_{IP}	ψ_f	W	R^2	ζ_{IP}	ζ_f	W	R^2	ψ_{IP}	ψ_f	W	R^2	ζ_{IP}	ζ_f	W	R^2	
1	-0.22	2.42	5.44	2.94	-0.22	1.42	1.97	1.07	-0.68	1.97	4.98	2.52	-1.00	2.15	5.31	3.28	-0.27	2.16	5.14	2.99	-0.31	1.52	2.71	1.59									
<i>HH</i>	[-0.25]	[2.48]	[3.88]		[-0.25]	[1.45]	[51.45]		[-0.70]	[2.18]	[16.58]		[-1.02]	[2.30]	[12.49]		[-0.34]	[2.48]	[4.45]		[-0.39]	[1.75]	[32.00]										
<i>VAR</i>	[-0.32]	[2.62]	[0.00]		[-0.35]	[1.55]	[0.10]		[-0.99]	[2.18]	[0.10]		[-1.36]	[2.28]	[0.00]		[-0.44]	[2.63]	[0.10]		[-0.45]	[1.84]	[0.00]										
2	-0.68	2.39	6.75	5.53	-0.68	1.39	3.09	2.40	-0.91	1.95	3.13	5.03	-1.22	2.16	3.22	6.50	-0.65	2.15	5.94	5.68	-0.69	1.54	3.73	3.44									
<i>HH</i>	[-0.94]	[2.44]	[1.53]		[-0.94]	[1.42]	[30.90]		[-1.18]	[2.25]	[14.66]		[-1.54]	[2.35]	[9.68]		[-0.98]	[2.44]	[2.27]		[-1.03]	[1.73]	[17.26]										
<i>VAR</i>	[-0.97]	[2.38]	[0.00]		[-0.99]	[1.42]	[0.10]		[-1.31]	[1.85]	[0.00]		[-1.70]	[1.98]	[0.00]		[-0.97]	[2.33]	[0.10]		[-1.16]	[1.63]	[0.00]										
3	-0.85	2.32	6.21	7.67	-0.85	1.32	3.29	3.59	-1.16	1.85	3.10	7.31	-1.45	2.06	3.37	9.29	-0.80	2.08	5.31	7.74	-0.83	1.47	3.82	4.94									
<i>HH</i>	[-1.35]	[2.41]	[1.19]		[-1.35]	[1.37]	[23.34]		[-1.50]	[2.08]	[21.34]		[-1.82]	[2.18]	[13.45]		[-1.35]	[2.38]	[2.46]		[-1.42]	[1.67]	[14.22]										
<i>VAR</i>	[-1.12]	[2.13]	[0.00]		[-1.26]	[1.34]	[0.00]		[-1.67]	[1.75]	[0.00]		[-2.18]	[1.92]	[0.00]		[-1.23]	[2.17]	[0.00]		[-1.33]	[1.56]	[0.00]										
6	-1.24	2.19	8.02	14.47	-1.24	1.19	5.27	8.38	-1.56	1.70	3.63	13.65	-1.82	1.91	4.09	16.64	-1.16	1.96	6.19	14.39	-1.19	1.36	5.26	10.63									
<i>HH</i>	[-2.24]	[2.58]	[0.06]		[-2.24]	[1.40]	[3.52]		[-1.91]	[1.98]	[20.99]		[-2.14]	[2.07]	[11.81]		[-2.10]	[2.51]	[0.55]		[-2.19]	[1.72]	[2.88]										
<i>VAR</i>	[-1.81]	[2.07]	[0.00]		[-1.84]	[1.13]	[0.00]		[-2.40]	[1.62]	[0.00]		[-2.53]	[1.73]	[0.00]		[-1.93]	[2.05]	[0.00]		[-1.99]	[1.44]	[0.00]										
12	-1.46	1.70	29.77	24.60	-1.46	0.70	24.89	16.71	-1.65	1.80	7.71	25.44	-1.87	2.01	9.92	29.51	-1.36	1.51	16.77	24.00	-1.40	0.92	18.80	19.77									
<i>HH</i>	[-4.13]	[2.07]	[0.00]		[-4.13]	[0.86]	[0.00]		[-2.76]	[2.16]	[2.31]		[-3.10]	[2.18]	[0.39]		[-3.65]	[2.09]	[0.00]		[-3.91]	[1.22]	[0.00]										
<i>VAR</i>	[-2.38]	[1.75]	[0.00]		[-2.39]	[0.75]	[0.00]		[-3.48]	[2.16]	[0.10]		[-3.89]	[2.31]	[0.00]		[-2.49]	[1.66]	[0.00]		[-2.60]	[1.14]	[0.00]										

Notes: This table reports results of forecasting regressions for average excess returns and average exchange rate changes for baskets of currencies at horizons of one, two, three, six and twelve months. For each basket we report the R^2 , and the slope coefficients in the time-series regression of the log currency excess return on the 12-month change in the U.S. Industrial Production Index orthogonalized with respect to the world average Industrial Production (ψ_{IP}) and on the average log forward discount (ψ_f), and similarly the slope coefficients ζ_{IP} , ζ_f and the R^2 for the regressions of average exchange rate changes. The t -statistics for the slope coefficients in brackets are computed using the following methods. *HH* denotes Hansen and Hodrick (1980) standard errors computed with the number of lags equal to the length of overlap plus one lag. The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a *VAR* with the number of lags equal to the length of overlap plus one lag. Data are monthly, from Barclays and Reuters (available via Datastream). The returns do not take into account bid-ask spreads. The sample period is 11/1983–6/2010.

Table XVI: Forecasting Excess Returns with Average Forward Discounts — Foreign Investors

k	UK			Canada			Switzerland			Japan			
	κ_f	R^2	ζ_f	κ_f	R^2	ζ_f	κ_f	R^2	ζ_f	κ_f	R^2	ζ_f	R^2
1	2.63	2.57	1.63	3.38	2.44	2.38	0.88	0.50	-0.12	1.34	0.27	0.34	0.02
<i>HH</i>	[2.31]		[1.43]	[2.65]		[1.87]	[1.32]		[-0.17]	[0.93]		[0.24]	
<i>VAR</i>	[2.82]		[1.66]	[2.47]		[1.74]	[1.21]		[-0.22]	[0.81]		[0.21]	
2	2.56	3.59	1.56	3.45	4.16	2.45	1.26	1.77	0.26	0.85	0.13	-0.15	0.00
<i>HH</i>	[2.71]		[1.66]	[2.46]		[1.75]	[1.41]		[0.29]	[0.45]		[-0.08]	
<i>VAR</i>	[2.40]		[1.47]	[2.45]		[1.67]	[1.29]		[0.22]	[0.45]		[-0.04]	
3	2.22	3.66	1.22	2.97	4.04	1.97	1.08	1.71	0.08	0.40	0.04	-0.60	0.08
<i>HH</i>	[2.45]		[1.35]	[1.91]		[1.26]	[1.11]		[0.08]	[0.20]		[-0.30]	
<i>VAR</i>	[1.88]		[1.03]	[2.04]		[1.32]	[0.90]		[-0.02]	[0.27]		[-0.29]	
6	1.78	3.95	0.78	2.47	4.26	1.47	0.93	2.16	-0.07	0.74	0.20	-0.26	0.02
<i>HH</i>	[1.79]		[0.78]	[1.71]		[1.02]	[0.86]		[-0.07]	[0.34]		[-0.12]	
<i>VAR</i>	[1.41]		[0.59]	[1.53]		[1.02]	[0.65]		[-0.20]	[0.43]		[-0.06]	
12	1.80	6.37	0.80	2.65	8.23	1.65	1.16	5.72	0.16	1.58	1.40	0.58	0.19
<i>HH</i>	[2.41]		[1.07]	[2.79]		[1.74]	[0.93]		[0.13]	[0.71]		[0.26]	
<i>VAR</i>	[1.33]		[0.64]	[1.64]		[1.05]	[0.85]		[0.12]	[0.81]		[0.31]	

Notes: This table reports the constant, slope coefficient and R^2 in predictability tests of currency excess returns. We take the perspective of foreign investors in the UK, Canada, Switzerland and Japan in forming the baskets of currencies. For each home country, we use the corresponding Average Forward Discount formed from the perspective of the giving country's investor. The t -statistics for the slope coefficients in brackets are computed using the following methods. *HH* denotes Hansen and Hodrick (1980) standard errors computed with the number of lags equal to the length of overlap plus one lag. The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag.